WiFi to RS-422/485 adapter user manual

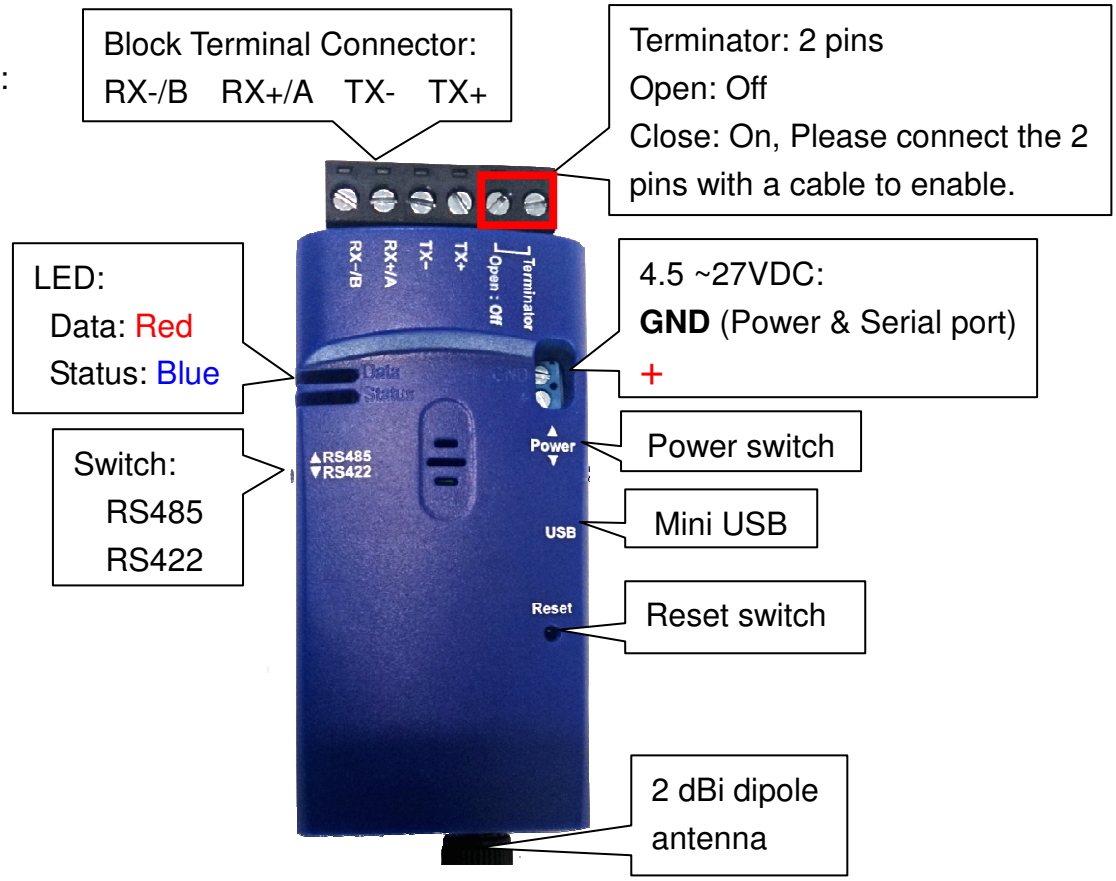
WiFi to RS-232 adapter

White Box Dimension: 11 x 6 x 5 (cm)
Total Package Weight: 132 g
Label: “WA-422”

Package Contents:

- WiFi RS-422/485 adapter x 1
- 2 dBi dipole antenna x 1
- A4 User manual x 1
- USB Cable x 1

1. Product profile:



2. Start to use the adapter

2.1 Please fasten the external antenna to the adapter and switch RS-422 or RS-485 in right side.
2.2 There’re two power inputs, mini USB or blue 2 ports block terminal. Please switch to choose one way to power the adapter. The max. voltage is 24 VDC input from the blue block terminal.
2.3 COM port default setting:

- Baud rate: 115200 bps
- Data bit: 8
- Parity: none
- Stop bit: 1
- Flow control: none

2.4 Network default setting:

- Adhoc mode (Simple AP) and support DHCP
- SSID: R2WiFi
- No Security
- IP: 192.168.2.99
- Socket port: 5000
- Channel: 11
- Log in ID: admin
- Log in password: admin

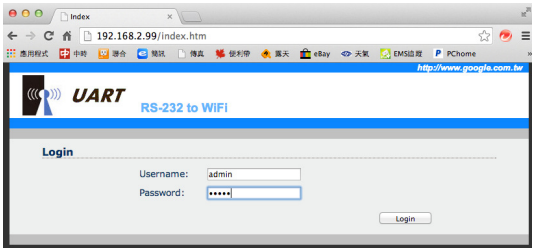
2.5 Power switch: mini USB side by default. The user will switch to the blue 2 ports block terminal side if the power input comes from other sources.

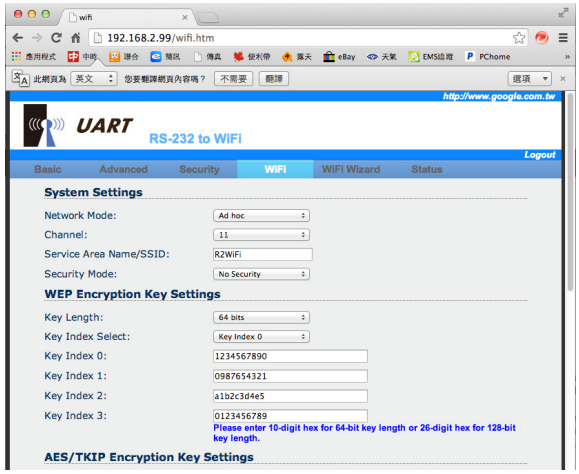
2.6 DCE/DTE switch: DCE side. The switch will swap TX,RX,CTS,RTS of the COM port. Generally, DCE side for PC or NB setup. The user will test and switch to the correct side for the remote device.

3. Configuration: Please choose one way and download the “TeraTerm” tool for testing.

3.1 Web page: The user will setup the adapter via PC, NB or Smart phone.

Step1: Connect the simpleAP named “R2WiFi”
Step2: http://192.168.2.99 on browser
Step3: Log in
Username: admin
Password: admin

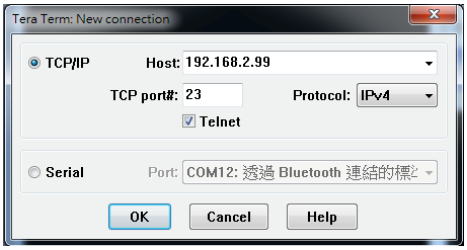


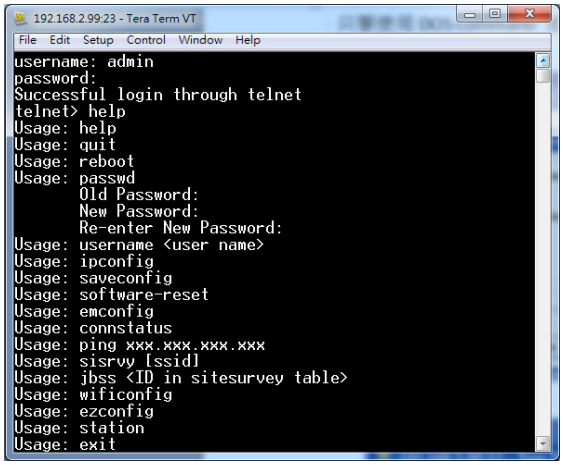


You can configure the WiFi and COM port parameters from the web page. Please press “Apply” when setup and the adapter will reboot.

3.2 Telnet:

Step1: Connect the simpleAP named “R2WiFi”
Step2: Execute telnet software
Step3: Telnet 192.169.2.99, port 23
Step4: Log in to setup by command





The telnet software will display the “telnet>” sign when log in successful. Please type “help” or “sethelp” for online help. The command set is listed on the section 8 & 9, please check.

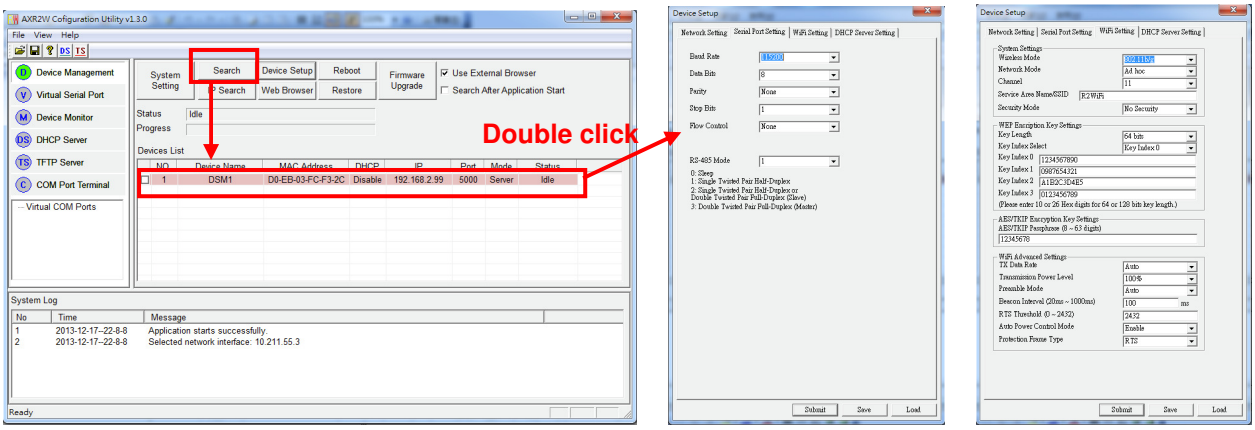
3.3 PC software:

Step1: Please connect the simpleAP named “R2WiFi”

Step2: Execute AX220xx Utility with the administrator authority by right click the AXR2W_x64.exe program on the folder.

C: > Program Files (x86) > AX220xx RS232-to-WiFi configuration Utility

Step3: Search the WiFi device, double click the item and the setup page display.



3.4 RS-232:

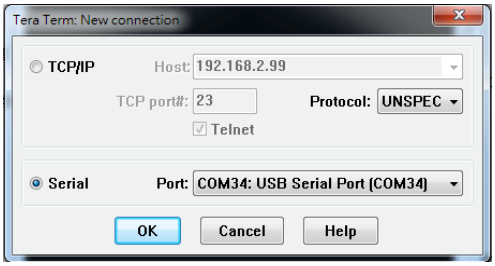
Step1: Connect the adapter via RS-232

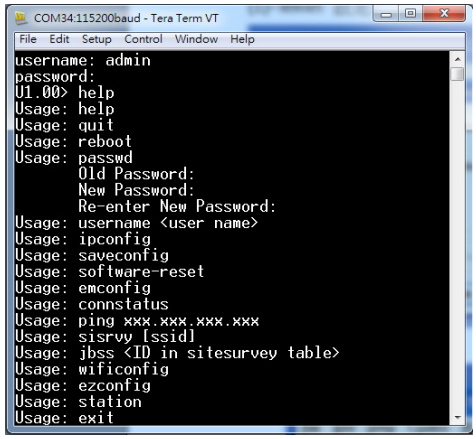
Step2: Execute COM port tool software

Step3: Set baud rate: 115200 bps

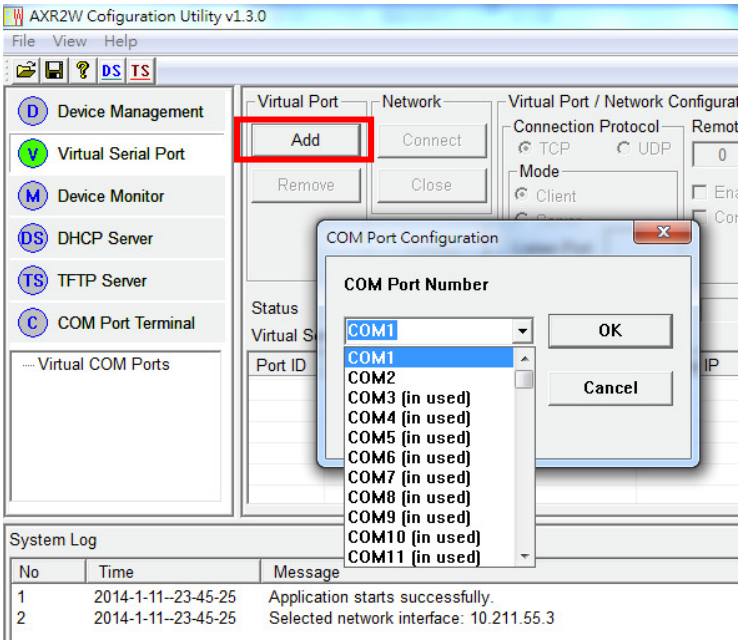
Step4: Key in “+++” and then Enter

Step5: Log in the device and setup

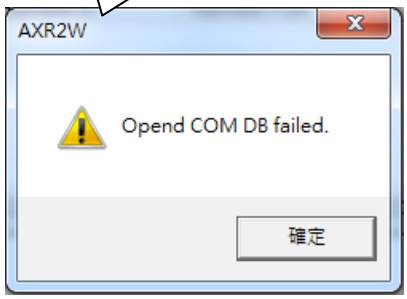


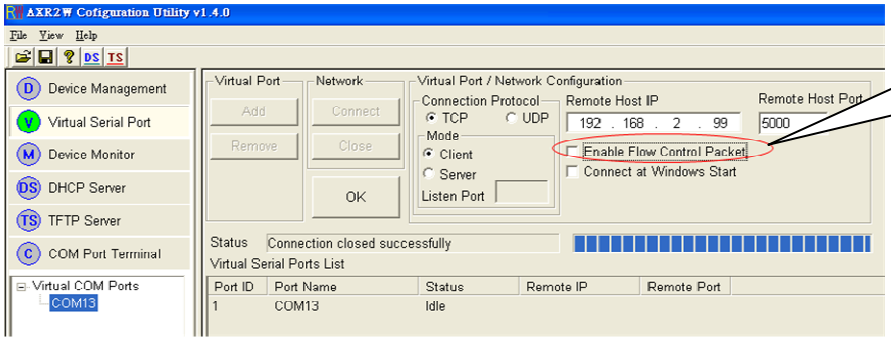


4. Virtual COM port driver: Please disable Flow Control first.

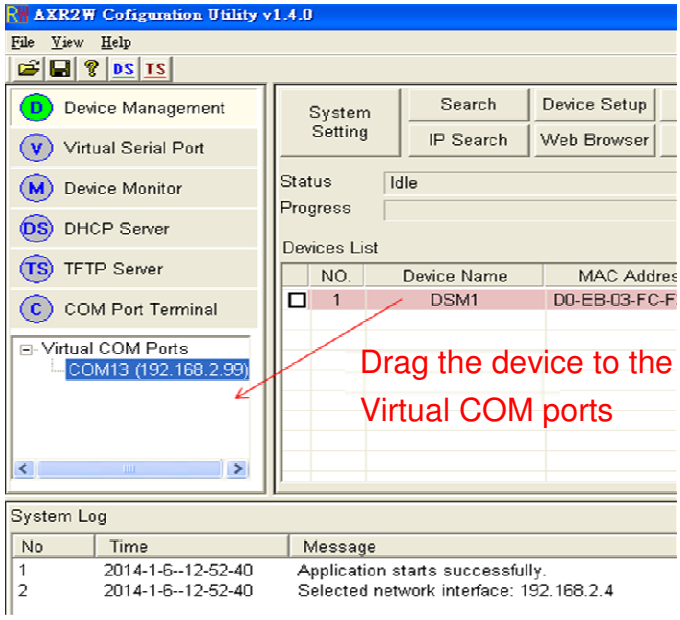


If the error display when add the virtual port on Win7, please follow the guide on the section 3.3, step 2.





Disable the flow control function.



VSP OS supported:

Windows 7/Vista/XP/2000 32-bit

Windows 7/Vista/XP 64-bit

5. LED indication:

LED	On	Off	Flash
Red	Connect AP OK	Connect AP Fail	On receiving data
Blue	N/A	Stop transmitting data	On transmitting data

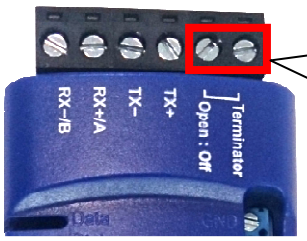
6. Reset button:

Press the “Reset” button over 5 seconds, the WiFi adapter will reset to default value. The LEDs will be off for some time and then reboot to the default value. The function is the same ad the software reset.

7. RS-422/485:

7.1 Pin-out:

Block Terminal Connector: RX-/B, RX+/A, TX-, TX+, Terminator (2 pins)



(Top View)

Terminator: 2 pins

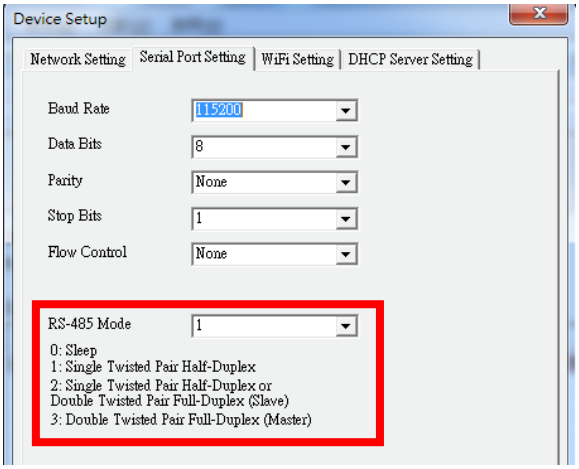
Open: Off

Close: On, Please connect the 2 pins with a cable to enable.

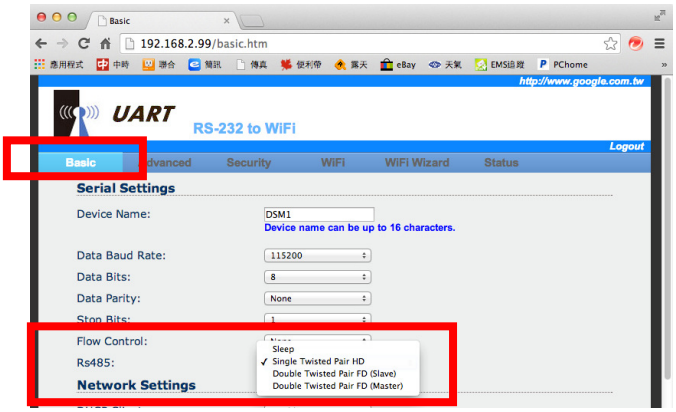
7.2 Setup: Please connect the ground on “GND” connector and check the terminator if necessary.

7.2.1 “set rs485” command: Please set the command via RS-232 or Telnet.

7.2.2 PC software:



7.2.3 Web page: On Basic page.



8. Command set:

ITEM	FUNCATION	COMMAND
1	To change data mode to command mode	+++
2	To change command mode to data mode	exit
3	System restart	reboot
4	New password	passwd
5	New username	username
6	IP address information inquiry	ipconfig
7	System parameter save	saveconfig
8	Software reboot	software-reset
9	E-mail configuation information	emconfig
10	Wifi connection status	connstatus
11	Inquiry an IP network	ping
12	Wireless site survey in infrastructure mode	sisrvy
13	Interconnect Wireless network	jbss
14	WiFi allocation information	wificonfig
15	Easy configuration module	ezconfig
16	MAC address information	station
17	Static IP address of device server in Server mode	set ip
18	Subnet mask of device server	set mask
19	Gateway IP address of device server	set gateway
20	DNS server IP address of device server	set dns
21	UART serialport parameter setting	set serialport

22	Server/Client setting	set mode
23	Local server port setting	set srvport
24	Destination port setting	set dstport
25	DHCP enable/disable	set dhcpclient
26	Communication protocol	set connectype
27	Time interval to send out serial data packet	set transmitimer
28	Accessible IP Addresses Configuration Parameters	set accessip
29	Accessible IP Mode: Enable	set accip
30	Current e-mail server address: XXX.com.tw	set ems
31	Current e-mail from address	set emf
32	Current e-mail to1 address	set emt1
33	Current e-mail to2 address	set emt2
34	Current e-mail to3 address	set emt3
35	Auto Warning Settings	set aw
36	RS485 mode set	set rs485
37	Assign host IP address	set dsthn
38	Firmware upgrade server address	set tftpsrv
39	Firmware upgrade file name	set filename
40	Display Debug Message	set dbgmsg
41	Transmit management data via broadcast/multicast packet	set bmcast
42	Service Set Identifier	set ssid
43	Ad-hoc / Infrastructurt mode setting	set nt
44	Channel setting	set ch
45	If WEP encryption is selected, this selects the key length, either WEP-64 or WEP-128 to be used.	set wepklen

9. Online help:

9.1 “help” command (Available for RS-232 setup only)

username: admin (default)
password: admin (default)
U1.00> help
U1.00> help
Usage: help
Usage: quit
Usage: reboot
Usage: passwd
Old Password:
New Password:
Re-enter New Password:
Usage: username <user name>
Usage: ipconfig
Usage: saveconfig
Usage: software-reset
Usage: emconfig
Usage: connstatus
Usage: ping xxx.xxx.xxx.xxx
Usage: sisrvy [ssid]
Usage: jbss <ID in sitesurvey table>
Usage: wificonfig
Usage: ezconfig
Usage: station
Usage: exit

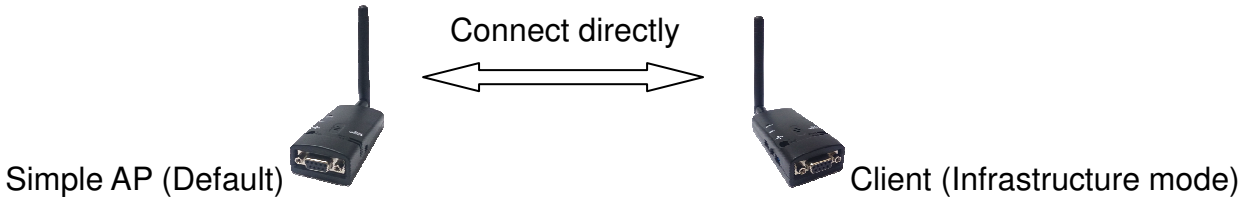
9.2 “sethelp” command (Available for RS-232 setup only)

username: admin (default)
password: admin (default)
U1.00> sethelp
Usage: set ip <ip addr>

Usage: set mask <netmask>
Usage: set gateway <ip addr>
Usage: set dns <ip addr>
Usage: set serialport <baud rate> <data bits> <parity> <stop bits> <flow ctrl>
<baud rate>: 0: 921600 5: 9600
1: 115200 6: 4800
2: 57600 7: 2400
3: 38400 8: 1200
4: 19200
<data bits>: 0: 5 2: 7
1: 6 3: 8
<parity>: 0: Odd 2: None
1: Even
<stop bits>: 0: 1 1: 1.5 2: 2
<flow ctrl>: 0: Xon/Xoff 2: None
1: Hardware
Usage: set mode <mode>
<mode>: 0: SERVER 1: CLIENT
Usage: set srvport <port>
Usage: set dstport <port>
Usage: set dhcpclient <status>
<status>: 0: disable 1: enable
Usage: set connectype <protocol>
<protocol>: 0: TCP 1: UDP
Usage: set transmitimer <time>
<time>: time in ms
Usage: set accessip <index> <ip addr>
<index>: index of accessible IP
<ip addr>: accessible IP address
Usage: set accip <mode>
<mode>: 0: disable 1: enable
Usage: set ems <e-mail server domain name>
Usage: set emf <e-mail address>
Usage: set emt1 <e-mail address>
Usage: set emt2 <e-mail address>
Usage: set emt3 <e-mail address>
Usage: set aw <cold start> <authentication fail> <ip changed> <password changed>
<cold start>: 0: Disable 1: Enable
<authentication fail>: 0: Disable 1: Enable
<ip changed>: 0: Disable 1: Enable
<password changed>: 0: Disable 1: Enable
Usage: set rs485 <mode>
<mode>: 1: Single Twisted Pair HD 3: Double Twisted Pair FD (Master)
Usage: set dsthn <Host name/IP>
Usage: tftpsrv <type> <ip addr>
<type>: 0: Bldr 1: MCPU 2: WCPU
Usage: set filename <type> <file name>
<type>: 0: Bldr 1: MCPU 2: WCPU
Usage: set dbgmsg <mode>
<mode>: 0: Disable 1: Enable
Usage: set bmcast <bcast> <mcast>
<bcast>: 0: Off 1: On
<mcast>: 0: Off 1: On
Usage: set ssid <Maximum 31 characters>
Usage: set nt <0 = Infra mode, 1 = Simple-AP mode>
Usage: set ch <channel index>
<channel index>
0: Auto 1: 1 2: 2 3: 3 4: 4 5: 5 6: 6

7: 7 8: 8 9: 9 10: 10 11: 11
Usage: set wepklen <0:64 bits, 1:128 bits>
Usage: set w64k <index = 0 ~ 3> <HEX Byte 0> <HEX Byte 1> ... <HEX Byte 4>
Usage: set w128k <index = 0 ~ 3> <HEX Byte 0> <HEX Byte 1> ... <HEX Byte 12>
Usage: set wki <WEP key index = 0 ~ 3>
Usage: set wp <WPA Passphrase, 8 ~ 63 characters>
Usage: set et <Encryption Type>
<Encryption Type> 0: No Security 3: TKIP
1: WEP64 4: AES
2: WEP128 5: Auto
Usage: set pmb <0 = Long preamble, 1 = Auto>
Usage: set rts <RTS threshold, 0 ~ 2432>
Usage: set tpl <Power level>
<Power level> 0: 100% 3: 12.5%
1: 50% 4: 6.25%
2: 25%
Usage: set dr <Data rate>
<Data rate> 0: Auto 7: 12Mbps
1: 1Mbps 8: 18Mbps
2: 2Mbps 9: 24Mbps
3: 5.5Mbps 10: 36Mbps
4: 6Mbps 11: 48Mbps
5: 9Mbps 12: 54Mbps
6: 11Mbps
Usage: set apc <Auto power control>
<Auto power control> 0: Disable 1: Enable
Usage: set bi <Beacon interval(ms)>
<Beacon interval(ms)> 20 ~ 1000
Usage: set pft <Protection frame type>
<Protection frame type>: 0: RTS 1: Self-CTS
Usage: set keyauto <key string>
Usage: set dhcpsrv <start addr> <end addr> <netmask> <gateway> <lease>
Usage: set dhcpsrvenable <status>
<status>: 0: disable 1: enable

10. One to one connection: The two WiFi adapters will be connected directly without access point.



10.1 One is in default mode, the other will be set by the following 10.2 command via RS-232 or Telnet software.
10.2 Command: set one adapter only.
set nt 0
set dhcpclient 0
set dhcpsrvenable 0
set mode 1
set dsthn 192.168.2.99
saveconfig
(Turn off the power and then turn on the power; the client will connect with the Simple AP automatically.)